

Appl. No. 09/767,383

Amdt. dated July 6, 2004

Reply to Office action of April 7, 2004

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-6 and 8 remain in the application. Claims 1 and 8 have been amended.

Support for the added wording in claims 1 and 8 is found in the specification, from page 10, line 25, to page 11, line 16. The output signal of the comparator 42 is further illustrated in Fig. 2, which provides further support for the terminology added in claims 1 and 8. We will return to the importance of the additions in the following discussion of the prior art.

Claims 1-6 and 8 have been rejected as being obvious over the combined teachings of Tamura et al. (US 4,709,404, "Tamura") and Satoh et al. (US 2002/0028701 A1, "Satoh") under 35 U.S.C. § 103. We respectfully traverse on the basis of the amended claims.

To begin with, it is appreciatively noted that the earlier rejection, namely the combination of Tamura with Tsukada et al. has been withdrawn. The Examiner has "replaced" the secondary reference Tsukada et al. with the Satoh publication. While the substitution is acknowledged, it is respectfully submitted that the rejection fails because of the primary

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reference Tamura. As will become clear from the following juxtaposition, Tamura provides for a different "comparator" and its effect on the circuit is entirely different from the claimed circuit.

The Examiner has compared the logic element of applicant's claims (e.g., the adder 43) with the diode 20 provided in the circuit configuration illustrated in Tamura's Fig. 9. The diode 20 is coupled to the output of the differential amplifier 19. I

Similarly, the logic element 43 is coupled to the output of the comparison device 42, in applicant's Fig. 1.

The Examiner has stated, with regard to claim 1, that the differential amplifier 19 described by Tamura is considered identical to the comparator 42 of the present invention.

The function of the differential amplifier 19 is described by Tamura in col. 4, lines 29 - 46. According to the description, the voltage at the output terminal 27 becomes substantially equal to the adjusted battery voltage - applied to the non-inverting input of the differential amplifier 19 - when the adjusted battery voltage is higher than the adjusted standard voltage - applied to the inverting input of the differential

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amplifier 19. When the adjusted battery voltage becomes lower than the adjusted standard voltage, the voltage of the output terminal 27 will begin to rapidly fall. This characteristic behavior of the differential amplifier 19 ensures that, in the first case, the diode 20 will be in a non-conductive condition and that, in the second case, the diode 20 will be rendered conductive.

According to the present invention - and specifically recited in the claims - the function of the comparator 42 is quite different from the function of the differential amplifier 19 of the Tamura reference. The output signal VDIFF of the comparator 42 is zero, when the loaded battery voltage lies above the reference voltage VREF. If the available battery voltage VB is below the reference voltage VREF, the difference signal VDIFF generated at the output of the comparator 42 is different from zero in the positive direction.

The relationship between the input voltages VB, VREF and the difference voltage VDIFF (output signal of the comparator 42) is also shown in Fig. 2. In the first case, when the loaded battery voltage VB lies above the reference voltage VREF, the corrected nominal value of the output power signal PREF' is equal to the predetermined nominal value of the signal PREF. In the second case, if the available battery voltage VB lies

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below the reference voltage V_{REF} , the corrected nominal value of the output power signal P_{REF}' is reduced as compared with the nominal value P_{REF} .

The amended claims 1 and 8 define the characteristic behavior of the comparison device 42 and further elaborate on the differences as compared to the operation of the differential amplifier 19 of Tamura.

Claims 1 and 8 are very clearly distinguished over the primary reference Tamura. Furthermore, the secondary reference Satoh cannot modify the primary teaching to arrive at the claimed invention.

Satoh was cited with regard to the features concerning the digitally operating functional unit that switches off another circuit component in dependence on the output signal of the comparison device. That is, Satoh has no bearing on the claimed comparison device and its functionality. In patentability terms, Satoh does not provide any teaching that would modify Tamura in regards to the functionality of the comparison device and the interaction of the circuit components in dependence on the supply voltage.

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In summary, none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1 and 8. These claims are, therefore, patentable over the art and since all of the dependent claims are ultimately dependent thereon, they are patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1-6 and 8 are solicited.

Respectfully submitted,



For Applicant

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July 6, 2004

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